

# Healthcare-Associated Infections in Hawaii

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## 2014 Report



August 1, 2015



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## Executive Summary:

Healthcare-associated infections (HAIs) are infections associated with receiving treatment in a healthcare setting. According to a 2011 survey by the Center for Disease Control and Prevention (CDC), about 1 in 25 hospital patients in the United States had at least one healthcare-associated infection. The total cost of HAIs to U.S. hospitals has been estimated at almost \$33 billion per year.

The following report includes information about specific HAIs among patients who received treatment in Hawaii's acute care facilities in 2014, as well as a report of influenza vaccination coverage in Hawaii facilities for the 2014–2015 influenza season. This report contains data for conditions mandated by the Centers for Medicare and Medicaid Services (CMS) for the Inpatient Quality Reporting (IQR) program as mandated by [HRS §325-2.5](#).

Overall, the statewide infection rates were lower than predicted; the total observed number of HAIs in Hawaii hospitals was almost 32% lower than predicted based on national data. However, 32% more colon (COLO) surgical site infections (SSIs) were reported. This highlights the need for continued vigilance in infection control and HAI reduction. For each condition contained in the report, compared with the nationally predicted levels, there were:

- 76% fewer central line-associated bloodstream infections (CLABSI)
- 28% fewer catheter associated urinary tract infections (CAUTI)
- 32% more COLO SSI
- 11% fewer abdominal hysterectomy (HYST)SSIs
- 27% fewer *Clostridium difficile* infections (CDI)
- 29% methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia events

Hawaii continues to work towards longer-term goals in HAI reduction. In 2009, the U.S. Department of Health & Human Services (DHHS) developed HAI [Prevention Targets](#) to be achieved by 2013. This year, Hawaii has maintained achievement of the target for each condition, with the exception of SSIs and CDI. Additional strategies may be needed to address SSIs and CDI as well as achieve the HAI prevention targets.

Influenza vaccination coverage of 90% of a facility's healthcare personnel is a DHHS Healthy People 2020 goal;<sup>2</sup> the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) has begun to require facilities set incremental goals to achieve this goal.<sup>3</sup> Vaccination coverage by hospital in our state ranged from 47% to 90%, and the overall state average was 73%. To provide context, the Hawaii average was 67% during the 2013–2014 influenza season, and the national average was 82%.<sup>4</sup> The state average for the 2014–2015 influenza season showed improvement, but only one facility has attained the Healthy People 2020 goal, indicating that this may be an area for increased focus by facilities.

Many factors contribute to a healthcare facility's reported infection rate, both within the facility as a whole and at the level of individual provider practices and individual patient situations. Hawaii's healthcare sector continues to stay abreast and even ahead of national peers in controlling the incidence of HAIs. Continued vigilance and education are necessary to ensure HAIs become the exceptions rather than accepted consequences of hospitalizations.

<sup>2</sup> [http://www.healthypeople.gov/node/6361/data\\_details](http://www.healthypeople.gov/node/6361/data_details)

<sup>3</sup> [http://www.jointcommission.org/assets/1/18/R3\\_Report\\_Issue\\_3\\_5\\_18\\_12\\_final.pdf](http://www.jointcommission.org/assets/1/18/R3_Report_Issue_3_5_18_12_final.pdf)

<sup>4</sup> <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6337a2.htm>

## Introduction:

Healthcare-associated infections (HAIs) are infections related to receiving treatment in a healthcare setting. For each type of infection affecting a patient in a healthcare setting, specific criteria are used to determine whether the infection is a HAI for the purposes of surveillance. For example, if a bloodstream infection develops in a patient on or after the third hospital day (day of admission is day one), the infection is considered a HAI. Bloodstream infections occurring within the first two hospital days are considered community-associated infections; i.e., they were acquired in the community before admission to the hospital.

According to a 2011 survey by CDC, an estimated one in 25 hospital patients has at least one HAI. There were an estimated 722,000 HAIs in U.S. acute care hospitals in 2011, and about 75,000 hospital patients with HAIs died during their hospitalizations. In 2009, CDC estimated the direct cost of HAIs to U.S. hospitals ranged from \$28.4 to 33.8 billion (after adjusting to 2007 dollars).

HAIs have decreased dramatically in hospitals across the nation, including Hawaii. New technologies, more teamwork, and a reliance on evidence-based practices have had a significant impact on safety and quality of care. Just 10 years ago, HAIs were considered an unavoidable risk of being hospitalized. Today many intensive care units and other inpatient wards are reporting 6, 12, and even 24 consecutive months without a single case of healthcare-associated bloodstream, urinary tract, or pneumonia infections.

According to CDC's most recent [HAI Progress report \(2013\)](#), Hawaii had the second best standardized infection ratio (SIR) for central line-associated bloodstream infections (CLABSI) in the nation for all-location reporting; we were third-best within intensive care unit (ICU) locations. For both all-location reporting and within the subset of ICU locations, Hawaii had the third-best SIR rate in the nation for catheter-associated urinary tract infections (CAUTI). For abdominal hysterectomy (HYST) surgical site infections (SSIs), Hawaii had zero infections in 2013 and had the best SIR in the nation. However, Hawaii was the 34th state for colon (COLO) SSIs, indicating that there is still work to be done to reduce HAIs in healthcare facilities. Additionally, state-specific data on methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia and *Clostridium difficile* infections (CDI) were included in CDC's report for the first time. Hawaii had the 11<sup>th</sup> and 8<sup>th</sup> best SIR for those HAIs respectively.

The following report includes information about HAIs among patients who received treatment requiring specific types of devices or procedures in Hawaii's acute care facilities in 2014. In 2011, the Hawaii legislature [passed HRS §325-2.5](#), relating to HAI reporting. Healthcare facilities have granted the Hawaii Department of Health (HDOH) access to HAI data reported to the [National Healthcare Safety Network \(NHSN\)](#) under the Centers for Medicare and Medicaid Services (CMS) rules.

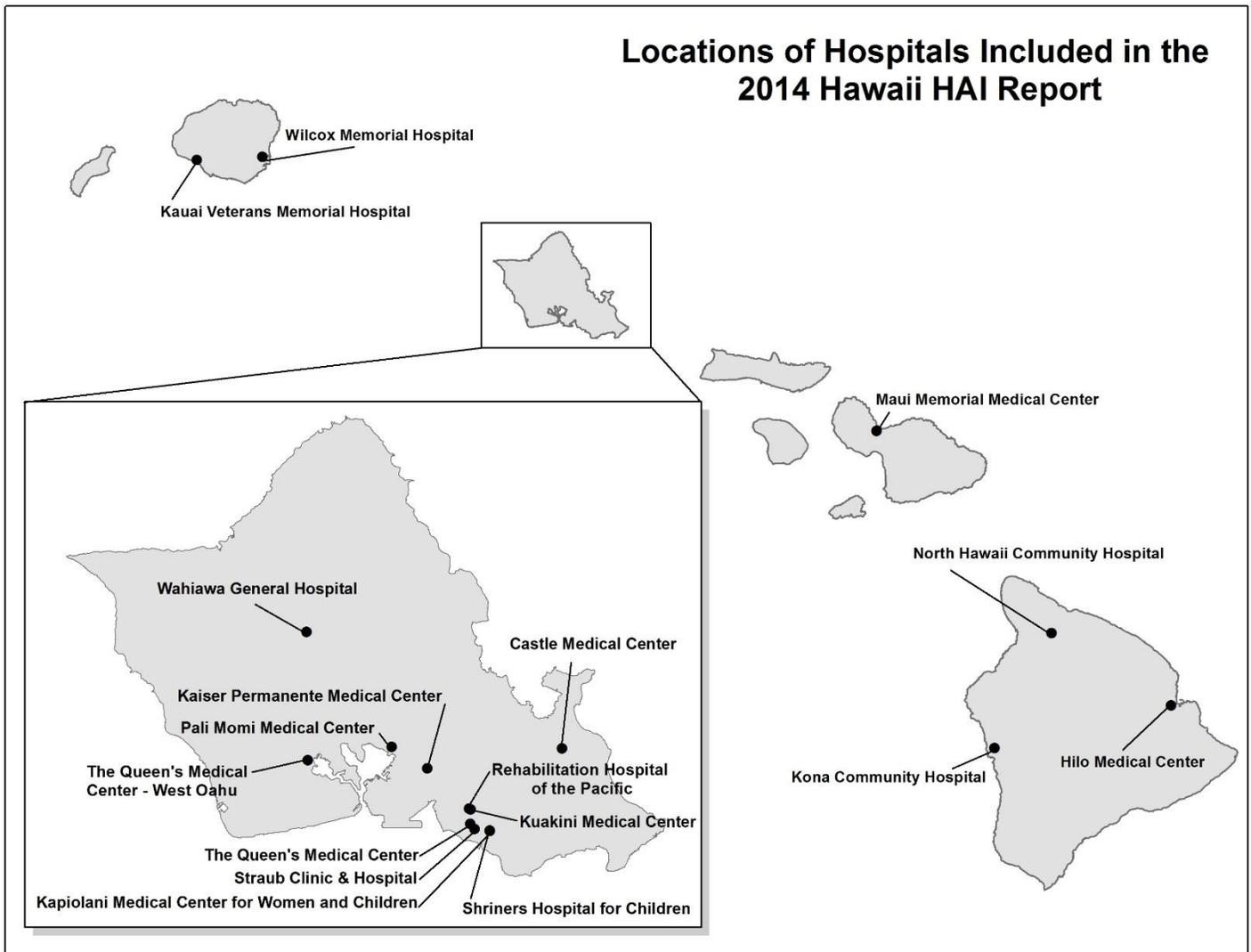
The statute also instructs HDOH to prepare public reports of Hawaii HAI rates using methodology developed by CDC and CMS. The [first Hawaii HAI report](#) was released in 2013 and contained data for conditions mandated by CMS for the [Inpatient Quality Reporting](#) (IQR) program for calendar year 2012, including all CLABSI and CAUTI in ICU locations as well as all inpatient surgical site infections (SSI) after HYST and COLO surgeries. The [2013 Hawaii HAI Report](#) additionally contained data on MRSA bacteremia, CDI infections, and healthcare personnel (HCP) influenza vaccination rates for the first time. These data were presented for the entire facility.

Figure 1 shows the location of each hospital included in this report. Hospitals not part of the CMS IQR program were excluded, including: Hale Hoola Hamakua, Kahuku Medical Center, Kau Hospital, Kohala Hospital, Kula Hospital, Lanai Community Hospital, Leahi Hospital, Maluhia, Molokai General Hospital, Samuel Mahelona Memorial Hospital, and Tripler Army Medical Center. While Kapiolani Medical Center for Women & Children, Kauai Veterans Memorial Hospital,

and Shriners Hospital for Children also fall into this category, they have voluntarily shared their data with HDOH and are therefore included in this report. Rehabilitation Hospital of the Pacific participates in the CMS Inpatient Rehabilitation Facility Quality Reporting Program for HCP influenza vaccination, and each facility's influenza vaccination coverage is included in this report.

The information in this report is consistent with HAI data published in [CDC reports](#) and on the CMS website [Hospital Compare](#). Please note that the Hospital Compare website may have some discrepancies compared with our report because data submitted to CMS cannot be corrected or updated by facilities once a quarterly submission period has ended. Additionally, for SSI, CMS utilizes slightly different statistical models which may generate small discrepancies.

**Figure 1: Locations of Hospitals Included in the 2014 Hawaii HAI Report**



## Methods:

HDOH utilizes CDC's NHSN system for HAI reporting. NHSN is a free, secure, web-based surveillance system developed by CDC and used by over 13,000 healthcare facilities in the nation. NHSN has data collection modules covering a wide variety of HAIs from many types of healthcare organizations. The data are risk-adjusted and aggregated with standardized numerator and denominator definitions to allow for comparison and trending across facilities.

The six CMS-mandated HAIs are presented using a standardized infection ratio (SIR). The SIR is a summary measure which compares the number of infections associated with a facility's number of device days (CLABSI and CAUTI), procedures (SSI), or patient days (CDI and MRSA bacteremia) with national baseline data. The national data include all U.S. hospitals which report data to CDC's NHSN database.

The SIR accounts for some risk factors which could increase or decrease a patient's risk of infection. This adjustment for differences in risk allows for reasonable comparisons among hospitals, regardless of patient characteristics. The findings in this report are based on the assumption that patients at Hawaii hospitals are similar to all patients in the NHSN database. Lower SIRs indicate better performance.

The SIR is a ratio describing a hospital's actual infection numbers compared with a predicted number calculated using national baseline data. Since the NHSN database does not contain data for every infection in the United States, there is a level of uncertainty associated with the estimated SIR. This uncertainty is represented by a 95% confidence interval (CI; presented as an error bar). This means we have a high degree of confidence (in this case, 95%) the true SIR lies within this range. CIs provide a simple way to determine statistical significance. If the confidence interval includes the value of 1, then the SIR is not significant (i.e., the number of observed events is not significantly different than the number predicted). If the confidence interval does not include the value of 1, then the SIR is significant. ([Click here for a technical guide on the SIR](#)).

This report also presents HCP influenza vaccination status in Hawaii's healthcare facilities. The proportion of HCP vaccinated was calculated as the number of workers known to be vaccinated divided by the total number of workers in the facility. Influenza vaccination coverage of 90% of a facility's healthcare personnel is a U.S. Department of Health and Human Services Healthy People 2020 goal;<sup>5</sup> the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) has begun to require facilities set incremental goals to achieve the 90% rate.<sup>6</sup> For the purposes of this report, facility benchmarks were set at 90% (the Healthy People 2020 goal) and 67% (the 2013–2014 state average). Additionally, this year's report will include data from the Rehabilitation Hospital of the Pacific, an inpatient rehabilitation facility participating in the CMS Inpatient Rehabilitation Facility Quality Reporting Program for HCP influenza vaccination; although included in the report, it should be noted that rehabilitation facilities may not be comparable to acute care facilities.

## Limitations:

The 2014 data presented in this report have not been validated. Validation is defined as a survey and audit process which would be performed by HDOH to assure quality of NHSN surveillance and reporting. However, the 2014 data have been assessed for completeness and quality.

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<sup>5</sup>[http://www.healthypeople.gov/node/6361/data\\_details](http://www.healthypeople.gov/node/6361/data_details)

<sup>6</sup> [http://www.jointcommission.org/assets/1/18/R3\\_Report\\_Issue\\_3\\_5\\_18\\_12\\_final.pdf](http://www.jointcommission.org/assets/1/18/R3_Report_Issue_3_5_18_12_final.pdf)

A hospital’s ability to detect HAI cases varies between hospitals as a result of the different resources available for surveillance, methodology employed, and infection prevention methods implemented. Higher HAI rates may be attributable to superior detection of HAIs rather than an actual higher number of events.

The national data used for comparison in these data analyses are the NHSN pooled averages from national HAI data collected during each condition’s respective “baseline period”(see table below). Note that data collected in 2015 will be used as the new baseline for 2016 and beyond.

Condition	Baseline	Reporting Location	Reporting Start Date
CLABSI	2006–2008	Adult, Pediatric, and Neonatal ICUs	January 2011
CAUTI	2009	Adult and Pediatric ICUs	January 2012
SSI: COLO & HYST	2006–2008	All inpatient procedures	January 2012
MRSA Bacteremia	2010–2011	Facility wide—inpatient	January 2013
CDI	2010–2011	Facility wide—inpatient	January 2013

## Instructions for reading the graphs and tables:

Since the SIR is an estimate, the graphs included in this report also display the CI using an error bar, please see the methods section for definitions of the SIR and CI. For hospitals with smaller volumes, the error bar will be wider.

The closer the SIR is to 1.0, the closer the actual number of infections was to the predicted number of infections for a given hospital. A SIR greater than 1.0 indicates more HAIs were observed than predicted; conversely, a SIR less than 1.0 indicates fewer HAIs were observed than predicted. A SIR of 0 means the hospital had no infections during the time period. The SIR can only be calculated if the number of predicted infections for the hospital is greater than 1.0. When the number of predicted infections is less than 1.0, the number of device days or procedures in that facility is too low to calculate a reliable SIR. For this reason, a SIR could not be calculated for every facility in Hawaii.

There are four possible results for a hospital’s SIR:

- If the error bar on the graph (95% CI) falls completely below the reference line of 1.0, the number of infections was **significantly lower (better)** than what we would predict, based on national data. This is represented by a green checkmark on the table:  or a green circle:  on the SIR graph.
- If the error bar crosses over the reference line of 1.0, the number of infections **was similar (not significantly different)** than predicted, based on national data. This is represented by a yellow equals sign on the table:  or a yellow square:  on the SIR graph.
- If the error bar falls completely above the reference line of 1.0, the number of infections was **significantly higher (worse)** than predicted, based on national data. This is represented by a yield sign on the table:  or a red diamond:  on the SIR graph.
- If the number of **predicted infections is less than 1.0**, then an SIR could not be calculated. This is represented by a white triangle  on the table, and will not be included on the SIR graph (indicated by an \* by the facility name).

Additionally, facilities achieving zero infections during the specified time period are marked with a green flower  next to the facility name in the table.

# Central Line-Associated Bloodstream Infections in ICU locations



## What is a Central Line-Associated Bloodstream Infection (CLABSI)?

A “central line” or “central catheter” is a tube placed into a patient’s large vein, usually in the neck, chest, arm, or groin. The central line is often used to draw blood or give fluids or medications. It may be left in place for several weeks. A bloodstream infection can occur when bacteria or other germs travel into a “central line” and enter the bloodstream. If you develop a central line-associated bloodstream infection (CLABSI) you may become ill with fevers and chills, or the skin around the central line may become sore and red. For more information, visit CDC’s [CLABSI website](#).

## What are some of the things hospitals do to prevent CLABSI?

To prevent CLABSI, doctors, nurses, and other healthcare providers:

- Clean their hands with soap and water or an alcohol-based hand rub before putting in the central line.
- Wear a mask, cap, sterile gown, and gloves when putting in the catheter.
- Clean their hands, wear gloves, and clean the central line opening with an antiseptic solution before using the central line to draw blood or give medications. Healthcare providers also clean their hands and wear gloves when changing the bandage covering the area the central line enters the skin.
- Evaluate every day whether the patient still needs to have the central line. The central line is removed as soon as it is no longer needed.

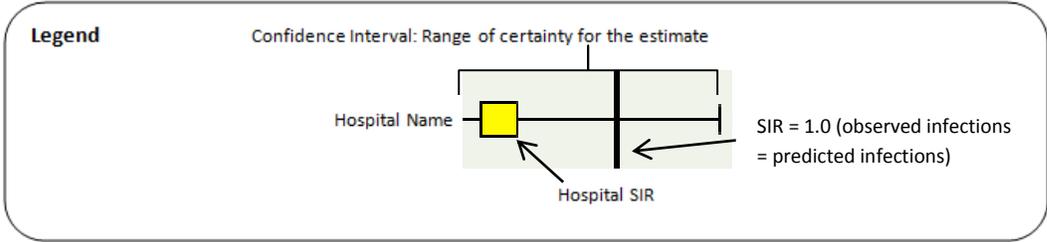
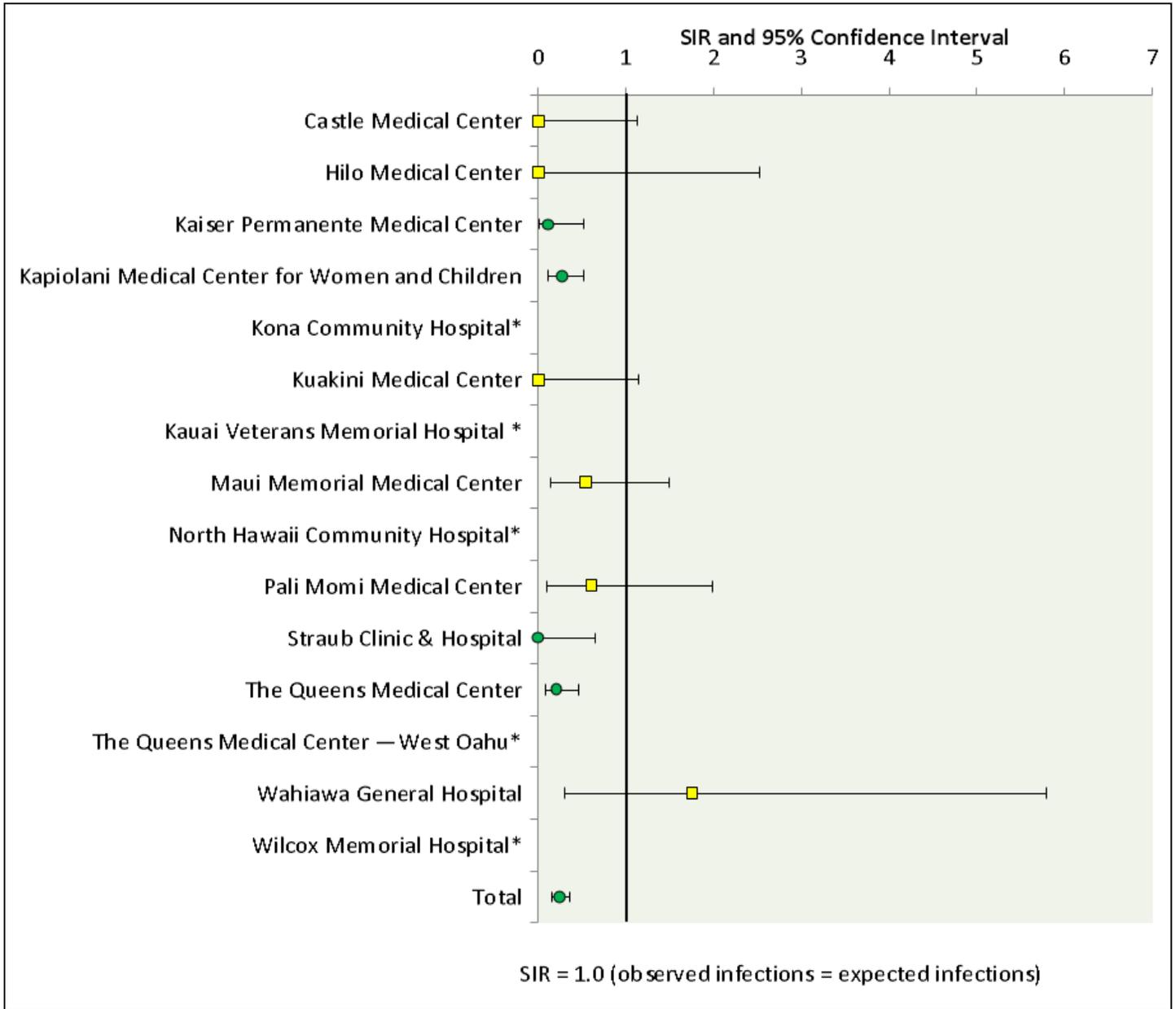
## What can you do to help prevent a CLABSI?

- Ask your doctors and nurses to explain why you need the central line and how long you will have it.
- Make sure all doctors and nurses caring for you clean their hands with soap and water or an alcohol-based hand rub before and after caring for you. **If you do not see your providers clean their hands, please ask them to do so.**
- Inform your nurse or doctor if the area around your central line is sore or red and if the bandage comes off or becomes wet or dirty.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. **If you do not see them clean their hands, ask them to clean their hands.**

## What is the current situation of CLABSIs?

- In 2014, 20 CLABSIs were reported in ICU locations within Hawaii hospitals. This was 76% lower than predicted.
- Hawaii achieved the DHHS 2013 HAI prevention target (SIR of 0.5) with a SIR of 0.24.
- No statistical difference was observed between 2013 and 2014 CLABSI SIRs.

## SIRs for Central Line-Associated Bloodstream Infections in ICU locations January 1, 2014 – December 31, 2014



- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- ◆ = Number of infections was **higher (worse)** than predicted

Note: Facilities with an asterisk (\*) have less than one predicted infection, and therefore do not have a SIR or confidence interval

**Central Line-Associated Bloodstream Infections in ICU locations  
January 1, 2014 through December 31, 2014**

Hospital	Hospital Performance Compared To NHSN National Data	Number Of Infections	Number Of Predicted Infections	Number Of Central Line Days	Standardized Infection Ratio	95% Confidence Interval For SIR
Castle Medical Center 		0	2.02	1,777	0.00	0, 1.12
Hilo Medical Center 		0	6.16	792	0.00	0,2.52
Kaiser Permanente Medical Center		1	9.03	4,373	0.11	0.01, 0.52
Kapiolani Medical Center for Women and Children		7	20.67	11,584	0.27	0.12, 0.52
Kona Community Hospital 		0	0.57	495	Too Small to Calculate	
Kuakini Medical Center 		0	5	1,740	0	0, 1.15
Kauai Veterans Memorial Hospital 		0	0.13	64	Too Small to Calculate	
Maui Memorial Medical Center		3	5.64	3,658	0.55	0.14, 1.49
North Hawaii Community Hospital 		0	0.46	178	Too Small to Calculate	
Pali Momi Medical Center		2	4.19	2,220	0.60	0.10, 1.98
Straub Clinic & Hospital 		0	3.97	3,103	0.00	0, 0.64
The Queen's Medical Center		5	23.08	11,390	0.21	0.08, 0.47
The Queen's Medical Center – West Oahu 		0	0.71	472	Too Small to Calculate	
Wahiawa General Hospital		2	1.98	600	1.75	0.29, 5.80
Wilcox Memorial Hospital 		0	0.69	511	Too Small to Calculate	
<b>Hawaii Total</b>		20	83.47	42,957	0.24	0.15, 0.36

Note: Reporting in Hawaii is linked to CMS IQR reporting requirements. Data from Kapiolani Medical Center for Women & Children is limited to their Neonatal and Pediatric ICUs. Shriners Hospital for Children does not have an ICU and therefore does not have data for this condition. Source of national baseline data: NHSN Report, *Am J Infect Control* 2009; 37:783-805. Data contained in this report were last generated on May 20, 2015.

**Legend:**

-  = Number of infections was **lower (better)** than predicted
-  = Number of infections was **similar (not significantly different)** to predicted
-  = Number of infections was **higher (worse)** than predicted
-  = ICU patients had too few central line days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
-  = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

# Catheter Associated Urinary Tract Infections in ICU Locations



## What is a Catheter Associated Urinary Tract Infection (CAUTI)?

A urinary catheter is a thin tube placed in the bladder to drain urine. Urine drains through the tube into a bag to collect the urine. People with urinary catheters have a much higher chance of getting a urinary tract infection than people who do not have a catheter. A urinary tract infection is an infection in the urinary system, which includes the bladder (stores the urine) and the kidneys (filter the blood to make urine). Germs (for example, bacteria or yeasts) do not normally live in these areas; if germs are introduced, an infection can occur. If you have a urinary catheter, germs can travel along the catheter and cause an infection in your bladder or your kidney, in which case it is called a catheter-associated urinary tract infection (CAUTI). For more information, visit [CDC's CAUTI website](#).

## What are some of the things hospitals are doing to prevent CAUTI?

To prevent CAUTI, doctors, nurses, and other healthcare providers:

- Put in catheters only when necessary and routinely evaluate to determine if they can be removed as soon as possible.
- Only allow catheters to be inserted and removed by properly trained persons using sterile (clean) technique.
- Clean the skin in the area where the catheter will be inserted before inserting the catheter.
- Clean their hands by washing them with soap and water or using an alcohol-based hand rub before and after touching a catheter.

## What can you do to help prevent a CAUTI?

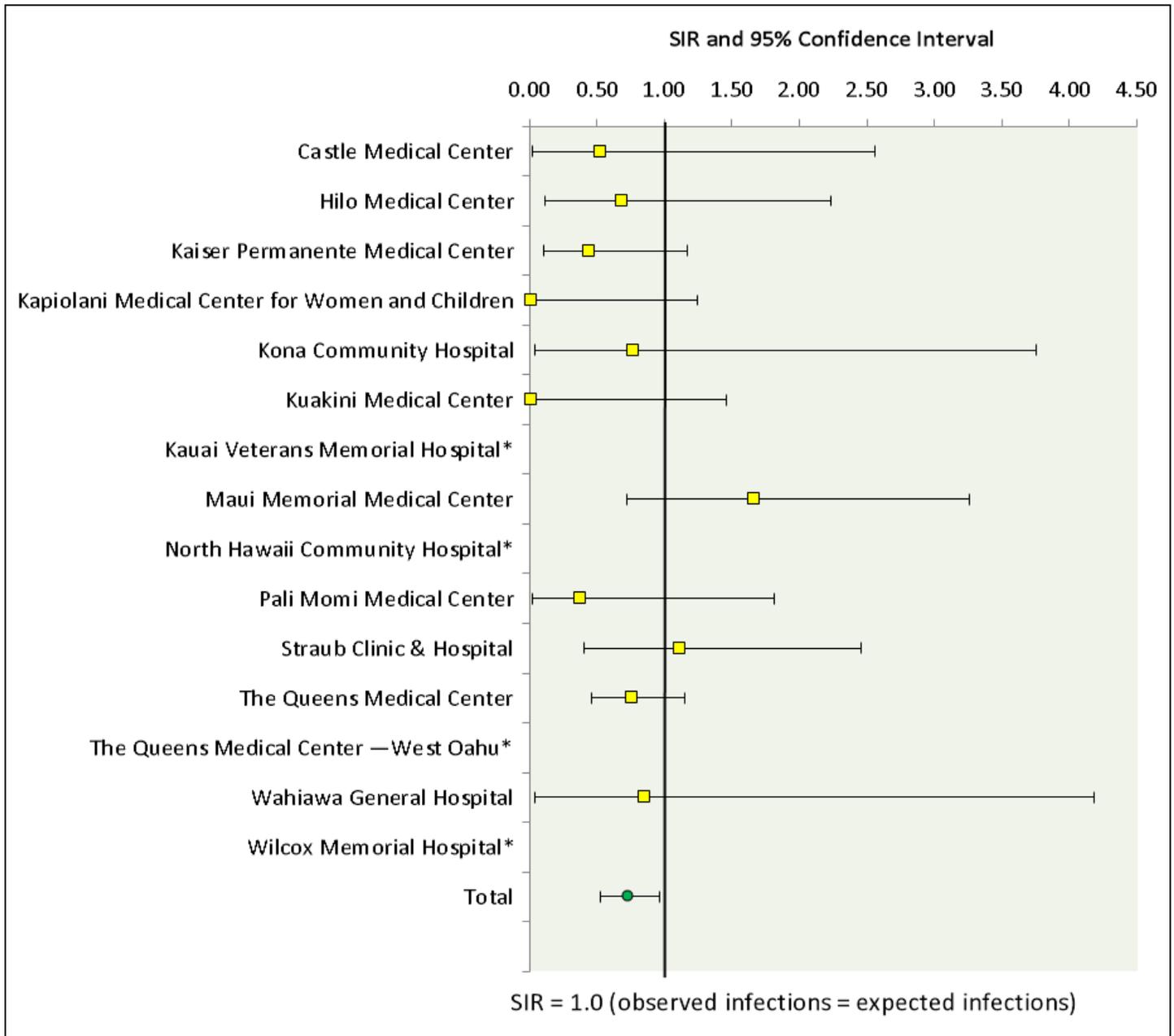
- Ask your healthcare provider each day if you still need the catheter.
- Make sure all doctors and nurses caring for you clean their hands with soap and water or an alcohol-based hand rub before and after caring for you. **If you do not see your providers clean their hands, please ask them to do so.**
- Always clean your hands before and after doing catheter care.
- Always keep your urine bag below the level of your bladder.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. **If you do not see them clean their hands, ask them to clean their hands.**

## What is the current situation of CAUTIs?

- In 2014, 42 CAUTIs were reported in ICU locations within Hawaii hospitals. This was 28% lower than predicted.
- Hawaii achieved the DHHS 2013 HAI prevention target (SIR of 0.75) with a SIR of 0.72.
- No statistical difference was observed between 2013 and 2014 CAUTI SIRs.

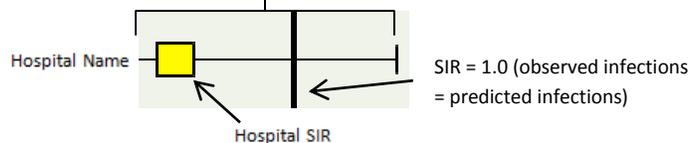
## SIRs for Catheter Associated Urinary Tract Infections in ICU locations

January 1, 2014 - December 31, 2014



### Legend

Confidence Interval: Range of certainty for the estimate



- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- ◆ = Number of infections was **higher (worse)** than predicted

Note: Facilities with an asterisk (\*) have less than one predicted infection, and therefore do not have a SIR or confidence interval

**Catheter Associated Urinary Tract Infections in ICU locations  
January 1, 2014 through December 31, 2014**

Hospital	Hospital Performance Compared To NHSN National Data	Number Of Infections	Number Of Predicted Infections	Number Of Catheter Days	Standardized Infection Ratio	95% Confidence Interval For SIR
Castle Medical Center		1	1.93	1,482	0.52	0.03, 2.56
Hilo Medical Center		2	2.96	2,275	0.68	0.11, 2.23
Kaiser Permanente Medical Center		3	6.98	3,107	0.43	0.11, 1.17
Kapiolani Medical Center for Women and Children 		0	2.41	907	0.00	0, 1.24
Kona Community Hospital		1	1.32	1,012	0.76	0.04, 3.75
Kuakini Medical Center 		0	2.06	1,581	0.00	0.26, 1.99
Kauai Veterans Memorial Hospital 		0	0.26	132	Too Small To Calculate	
Maui Memorial Medical Center		7	4.24	3,536	1.65	0.72, 3.26
North Hawaii Community Hospital 		0	0.34	262	Too Small To Calculate	
Pali Momi Medical Center		1	2.72	2089	0.37	0.02, 1.82
Straub Clinic & Hospital		5	4.52	3,474	1.11	0.41, 2.45
The Queen's Medical Center		19	25.42	9,872	0.75	0.46, 1.15
The Queens Medical Center — West Oahu		2	0.92	705	Too Small To Calculate	
Wahiawa General Hospital		1	1.18	590	0.85	0.04, 4.18
Wilcox Memorial Hospital 		0	0.92	706	Too Small To Calculate	
<b>Hawaii Total</b>		42	58.16	31,730	0.72	0.53, 0.97

Note: Reporting in Hawaii is linked to CMS IQR reporting requirements. Shriners Hospital for Children does not have an ICU and therefore does not have data for this condition. Source of national baseline data: NHSN Report, *Am J Infect Control* 2011; 39:349-367. Data contained in this report were last generated on May 22, 2015.

**Legend:**

-  = Number of infections was **lower (better)** than predicted
-  = Number of infections was **similar (not significantly different)** to predicted
-  = Number of infections was **higher (worse)** than predicted
-  = ICU patients had too few catheter days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
-  = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one



# Inpatient Colon Surgery—Surgical Site Infection

## What is a Surgical Site Infection (SSI)?

A SSI is an infection occurring after surgery in the part of the body where the surgery took place. Most surgical patients do not develop an infection. However, infections develop in approximately 1 to 3 out of every 100 patients who have surgery in the United States. The most common symptoms of a SSI are redness and pain around the area of the surgery, drainage of cloudy fluid from the surgical wound, and fever. For more information, visit [CDC's SSI website](#).

## What is Colon Surgery (COLO)?

COLO is a surgical procedure that includes incision (cutting), resection (removal), and sometimes the re-joining of any part(s) of the colon (large intestine). It does not include operations on the rectum (the rectum is the end of the colon); those involve a different surgical procedure.

## What are some of the things hospitals are doing to prevent SSIs?

To prevent SSIs, doctors, nurses, and other healthcare providers:

- Clean their hands and arms up to their elbows with an antiseptic agent just before the surgery.
- May remove some of your hair immediately before your surgery using electric clippers if the hair is in the same area where the procedure will occur. They should not shave you with a razor as that could cause microscopic wounds and possible entry points for bacteria.
- Give you antibiotics before your surgery starts to try to decrease the bacteria level on your skin and therefore limit your risk for infection. In most cases, you should get antibiotics within 60 minutes of the surgery; antibiotics should be stopped at most 24 hours after surgery.

## What can you do to help prevent a SSI?

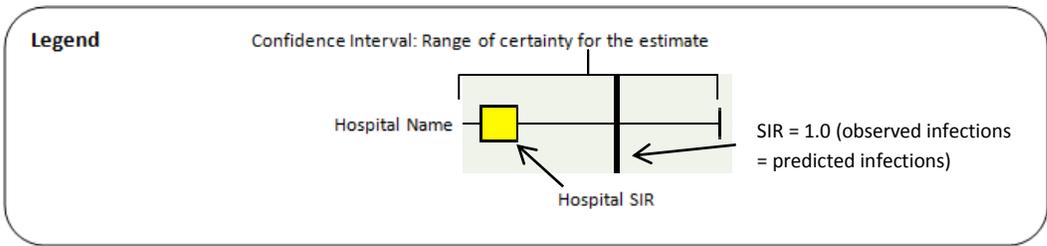
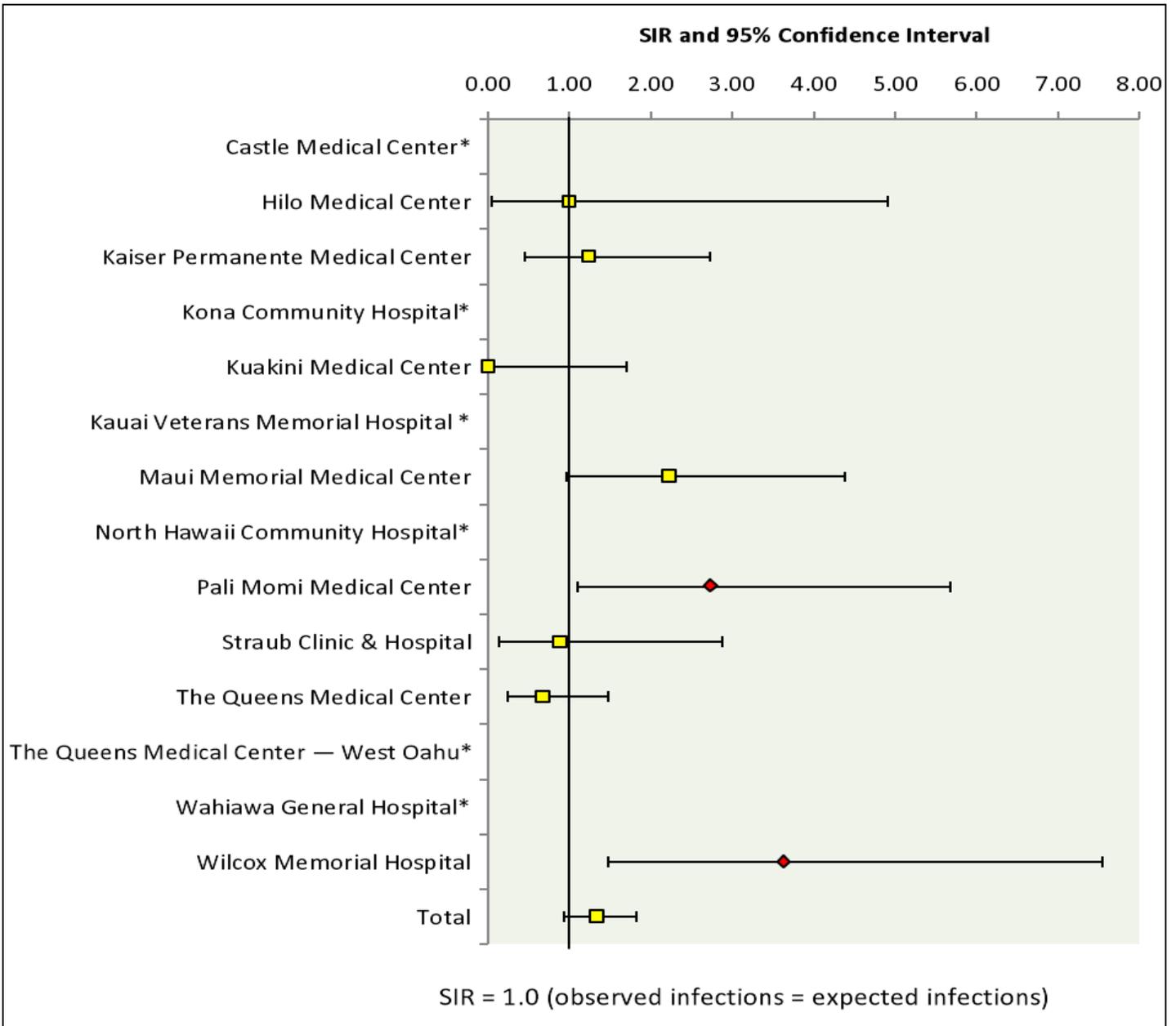
- Make sure your healthcare providers clean their hands before and after examining you, either with soap and water or an alcohol-based hand rub. **If you do not see your providers clean their hands, please ask them to do so.**
- Do not shave surgical area with a razor before surgery.
- **Speak up if someone tries to shave you with a razor before surgery.** Ask why you need to be shaved, and talk with your surgeon if you have any concerns.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. **If you do not see them clean their hands, ask them to clean their hands.**

## What is the current situation of COLO SSIs?

- In 2014, 35 COLO SSIs were reported within Hawaii hospitals. This was 32% higher than predicted.
- Hawaii did not achieve the DHHS 2013 HAI prevention target (SIR of 0.75) with a SIR of 1.25.
- No statistical difference was observed between 2013 and 2014 COLO SSI SIRs.

## SIRs for Inpatient Colon Surgery—Surgical Site Infection

January 1, 2014 - December 31, 2014



- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- ◆ = Number of infections was **higher (worse)** than predicted

Note: Facilities with an asterisk (\*) have less than one predicted infection, and therefore do not have a SIR or confidence interval

**Inpatient Colon Surgery—Surgical Site Infection**  
**January 1, 2014 through December 31, 2014**

Hospital	Hospital Performance Compared To NHSN National Data	Number Of Infections	Number Of Predicted Infections	Number Of Procedures	Standardized Infection Ratio	95% Confidence Interval For SIR
Castle Medical Center	△	2	0.78	29	Too Small To Calculate	
Hilo Medical Center	▬▬	1	1.00	40	1.00	0.05, 4.91
Kaiser Permanente Medical Center	▬▬	5	4.07	147	1.23	0.45, 2.73
Kona Community Hospital	△	0	0.61	27	Too Small To Calculate	
Kuakini Medical Center	▬▬	0	1.76	83	0.00	0, 1.71
Kauai Veterans Memorial Hospital	△	0	0.03	1	Too Small To Calculate	
Maui Memorial Medical Center	▬▬	7	3.16	96	2.21	0.97, 4.38
North Hawaii Community Hospital	△	0	0.54	18	Too Small To Calculate	
Pali Momi Medical Center	▽	6	2.20	97	2.73	1.11, 5.67
Straub Clinic & Hospital	▬▬	2	2.29	92	0.87	0.15, 2.89
The Queen's Medical Center	▬▬	5	7.53	216	0.66	0.24, 1.47
The Queens Medical Center — West Oahu	△	1	0.77	29	Too Small To Calculate	
Wahiawa General Hospital	△	0	0.10	5	Too Small To Calculate	
Wilcox Memorial Hospital	▽	6	1.65	46	3.63	1.47, 7.55
<b>Hawaii Total</b>	▬▬	35	26.49	926	1.32	0.94, 1.82

Note: Reporting in Hawaii is linked to CMS IQR reporting requirements. Shriners Hospital for Children does not perform this procedure. Kapiolani Medical Center for Women and Children is not mandated to report COLO SSI to NHSN. Report excludes Superficial Incisional Secondary (SIS) and Deep Incisional Secondary (DIS) SSIs. Includes only procedures and associated SSIs that are reported with primary closure technique. Source of national baseline data: 2006–2008 NHSN SSI Data. Data contained in this report were last generated on May 22, 2015.

**Legend:**

- ✓ = Number of infections was **lower (better)** than predicted
  - ▬▬ = Number of infections was **similar (not significantly different)** to predicted
  - ▽ = Number of infections was **higher (worse)** than predicted
  - △ = The facility had too few COLO procedures to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
  - 🌺 = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

# Inpatient Abdominal Hysterectomy—Surgical Site Infection



## What is a Surgical Site Infection (SSI)?

A SSI is an infection occurring after surgery in the part of the body where the surgery took place. Most surgical patients do not develop an infection. However, infections develop in approximately 1 to 3 out of every 100 patients who have surgery in the United States. The most common symptoms of a SSI are redness and pain around the area of the surgery, drainage of cloudy fluid from the surgical wound, and fever. For more information, visit [CDC's SSI website](#).

## What is an Abdominal Hysterectomy (HYST)?

HYST is a procedure to remove the uterus through an incision in the abdominal (i.e., belly) wall. This includes hysterectomy procedures done by laparoscope. (Laparoscopy is an operation performed in the abdomen or pelvis through tiny incisions using small surgical tools and a camera to see the areas needing repair or removal.)

## What are some of the things hospitals are doing to prevent SSIs?

To prevent SSIs, doctors, nurses, and other healthcare providers:

- Clean their hands and arms up to their elbows with an antiseptic agent just before the surgery.
- May remove some of your hair immediately before your surgery using electric clippers if the hair is in the same area where the procedure will occur. They should not shave you with a razor as that could cause microscopic wounds and possible entry points for bacteria.
- Give you antibiotics before your surgery starts to try to decrease the bacteria level on your skin and therefore limit your risk for infection. In most cases, you should get antibiotics within 60 minutes of the surgery; antibiotics should be stopped at most 24 hours after surgery.

## What can you do to help prevent a SSI?

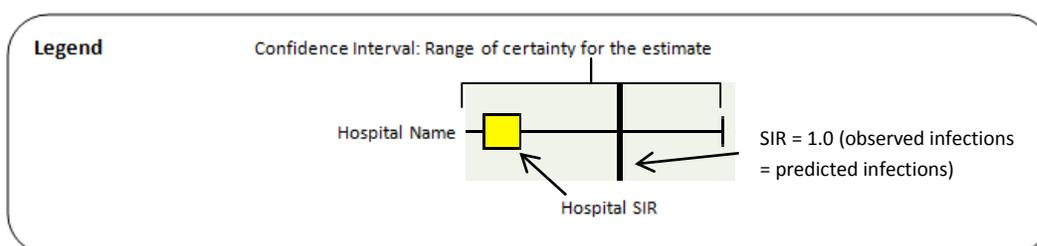
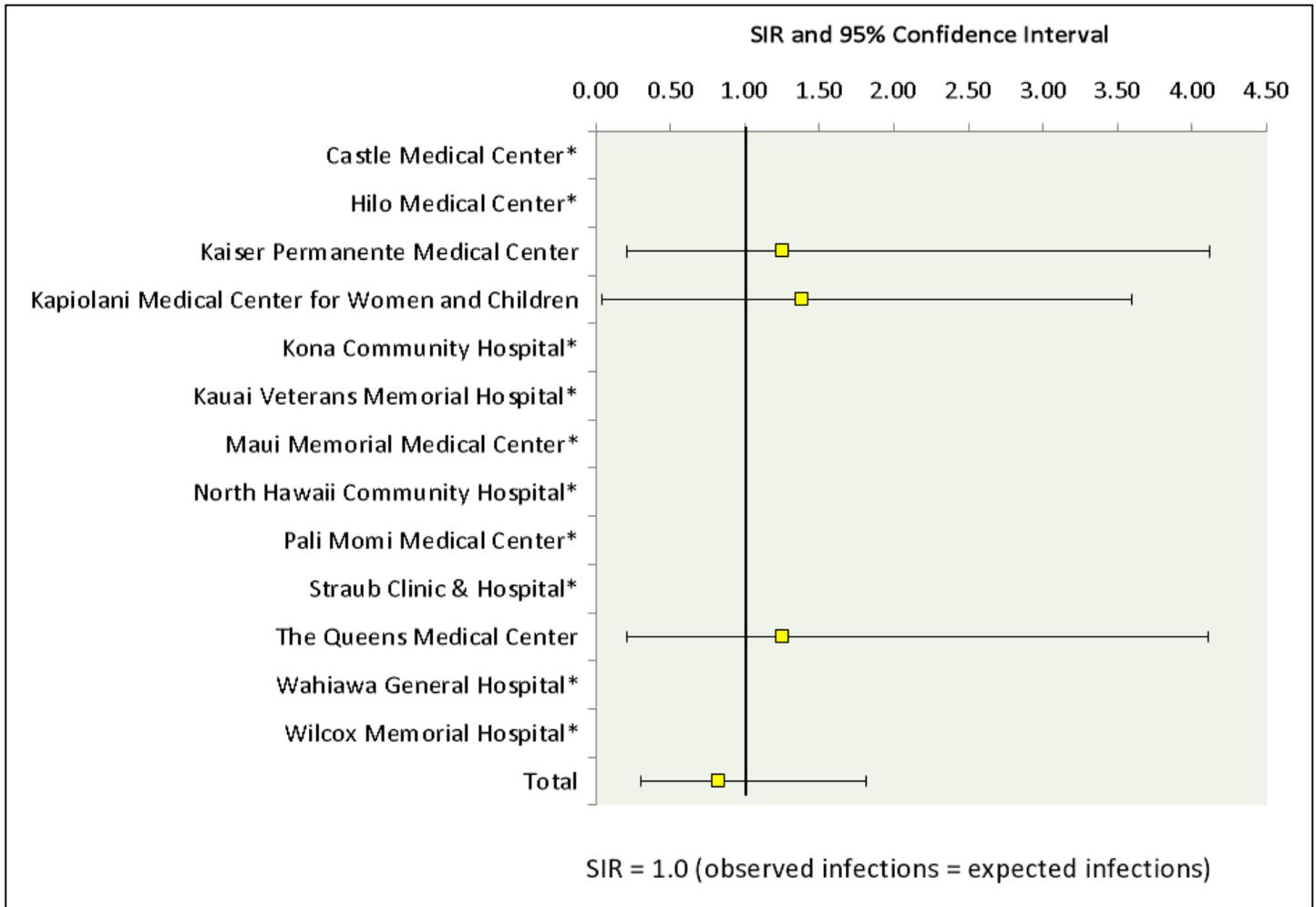
- Make sure your healthcare providers clean their hands before and after examining you, either with soap and water or an alcohol-based hand rub. **If you do not see your providers clean their hands, please ask them to do so.**
- Do not shave surgical area with a razor prior to surgery.
- **Speak up if someone tries to shave you with a razor before surgery.** Ask why you need to be shaved, and talk with your surgeon if you have any concerns.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. **If you do not see them clean their hands, ask them to clean their hands.**

## What is the current situation of HYST SSIs?

- In 2014, 5 HYST SSIs were reported within Hawaii hospitals. This was 11% lower than predicted.
- Hawaii did not achieve the DHHS 2013 HAI prevention target (SIR of 0.75) with a SIR of 0.89.
- A statistically significant increase in HYST SSIs was observed between 2013 and 2014.

## SIRs for Inpatient Abdominal Hysterectomy—Surgical Site Infection

January 1, 2014 - December 31, 2014



- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** to predicted
- ◆ = Number of infections was **higher (worse)** than predicted

Note: Facilities with an asterisk (\*) have less than one predicted infection, and therefore do not have a SIR or confidence interval

**Inpatient Abdominal Hysterectomy—Surgical Site Infection**  
**January 1, 2014 through December 31, 2014**

Hospital	Hospital Performance Compared To NHSN National Data	Number Of Infections	Number Of Predicted Infections	Number Of Procedures	Standardized Infection Ratio	95% Confidence Interval For SIR
Castle Medical Center 	△	0	0.14	17	Too Small To Calculate	
Hilo Medical Center 	△	0	0.43	63	Too Small To Calculate	
Kaiser Permanente Medical Center		2	1.61	184	1.25	0.21, 4.11
Kapiolani Medical Center for Women and Children		1	1.37	179	1.37	0.04, 3.59
Kona Community Hospital 	△	0	0.02	3	Too Small To Calculate	
Kauai Veterans Memorial Hospital 	△	0	0.02	3	Too Small To Calculate	
Maui Memorial Medical Center 	△	0	0.16	12	Too Small To Calculate	
North Hawaii Community Hospital 	△	0	0.34	50	Too Small To Calculate	
Pali Momi Medical Center 	△	0	0.05	6	Too Small To Calculate	
Straub Clinic & Hospital 	△	0	0.21	15	Too Small To Calculate	
The Queen's Medical Center		2	1.61	259	1.24	0.21, 4.11
Wahiawa General Hospital 	△	0	0.02	1	Too Small To Calculate	
Wilcox Memorial Hospital 	△	0	0.14	21	Too Small To Calculate	
<b>Hawaii Total</b>		5	6.11	813	0.82	0.30, 1.82

Note: Reporting in Hawaii is tied to CMS IQR reporting requirements. Shriners Hospital for Children and Kuakini Medical Center do not perform this procedure. Excludes Superficial Incisional Secondary (SIS) and Deep Incisional Secondary (DIS) SSIs. Includes only procedures and associated SSIs that are reported with primary closure technique. Source of national baseline data: 2006–2008 NHSN SSI Data. Data contained in this report were last generated on May 26, 2015.

**Legend:**

-  = Number of infections was **lower (better)** than predicted
  -  = Number of infections was **similar (not significantly different)** to predicted
  -  = Number of infections was **higher (worse)** than predicted
  -  = The facility had too few HYST procedures to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
  -  = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

# Inpatient *Clostridium difficile* Infection



## What is a *Clostridium difficile* infection (CDI)?

*Clostridium difficile* (CDI), also known as “*C. diff*,” is a bacterium which can cause diarrhea and inflammation of the colon (large intestine). CDI usually occurs in patients who are taking or have recently taken antibiotics. The most common symptoms of CDI include watery diarrhea, fever, loss of appetite, nausea, and belly pain. *C. difficile* can live as spores outside the human body for a very long time and can be found on objects such as bed linens, bathroom fixtures, and medical equipment. It can also be spread more directly through contaminated shared equipment and the hands of healthcare providers. For more information, visit [CDC’s CDI website](#).

## What are some of the things hospitals are doing to prevent CDI?

To prevent CDI, doctors, nurses, and other healthcare providers:

- Perform hand hygiene before and after caring for every patient.
- Carefully clean hospital rooms and medical equipment.
- Use [Contact Precautions](#) when caring for patients with CDI.
  - Whenever possible, a patient with CDI will have a single room or will share a room only with someone else who also has CDI.
  - Healthcare providers will put on gloves and wear a gown over their clothing while taking care of patients with CDI; visitors may also be asked to wear a gown and gloves.
  - When leaving the room, hospital providers and visitors remove their gown and gloves and clean their hands.
  - Patients on contact precautions are asked to stay in their hospital rooms as much as possible.

## What can you do to help prevent CDI?

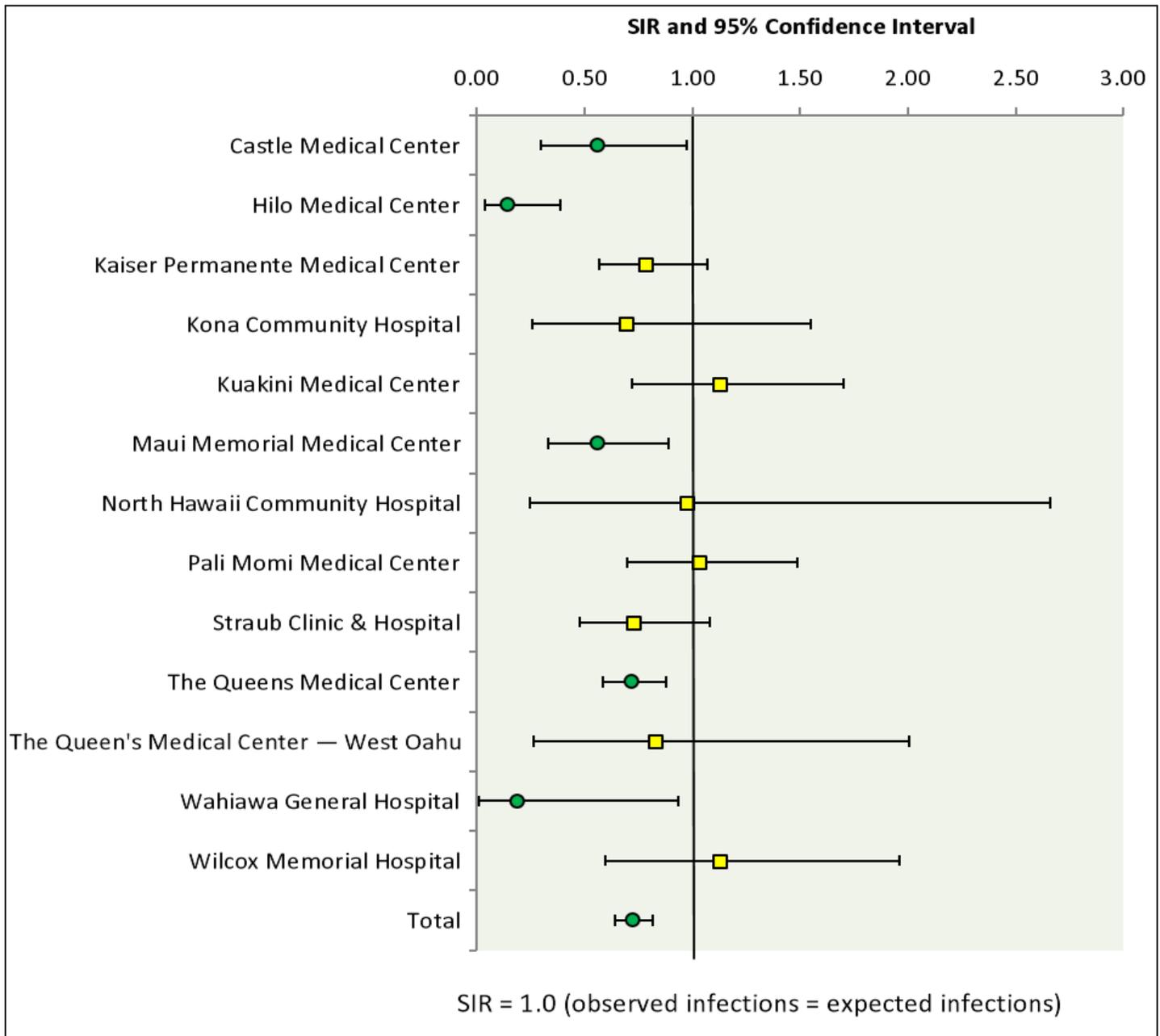
- Make sure your healthcare providers clean their hands before and after examining you. **If you do not see your providers clean their hands, please ask them to do so.**
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. **If you do not see them clean their hands, ask them to clean their hands.**
- **Only take antibiotics as prescribed by your doctor.**
- **Be sure to clean your hands often**, especially after using the bathroom and before eating.

## What is the current situation of CDI?

- In 2014, 258 CDI were reported within Hawaii hospitals. This was 27% lower than predicted.
- Hawaii did not achieve the DHHS 2013 HAI prevention target (SIR of 0.70) with a SIR of 0.73.
- No statistical difference was observed between 2013 and 2014 CDI SIRs.

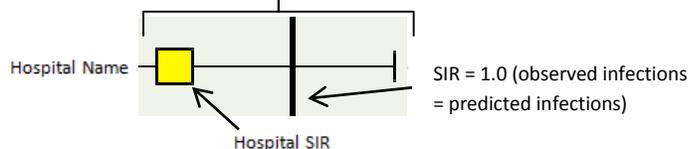
## SIRs for Inpatient *Clostridium difficile* Infections

January 1, 2014 - December 31, 2014



### Legend

Confidence Interval: Range of certainty for the estimate



- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** than predicted
- ◆ = Number of infections was **higher (worse)** than predicted

Note: Facilities with an asterisk (\*) have less than one predicted infection, and therefore do not have a SIR or confidence interval

**Inpatient *Clostridium difficile* Infections**  
**January 1, 2014 through December 31, 2014**

Hospital	Hospital Performance Compared To NHSN National Data	Number Of Infections	Number Of Predicted Infections	Number Of Patient Days	Standardized Infection Ratio	95% Confidence Interval For SIR
Castle Medical Center		11	19.60	31,177	0.56	0.30, 0.98
Hilo Medical Center		3	21.11	38,402	0.14	0.04, 0.40
Kaiser Permanente Medical Center		39	49.44	60,438	0.79	0.57, 1.07
Kona Community Hospital		5	7.16	14,362	0.70	0.26, 1.55
Kuakini Medical Center		21	18.57	29,397	1.13	0.72, 1.70
Maui Memorial Medical Center		16	28.61	56,881	0.56	0.33, 0.89
North Hawaii Community Hospital		3	3.07	6,933	0.98	0.25, 2.66
Pali Momi Medical Center		27	26.02	40,235	1.04	0.70, 1.49
Straub Clinic & Hospital		23	31.46	43,888	0.73	0.48, 1.08
The Queen's Medical Center		94	130.79	147,406	0.72	0.58, 0.88
The Queens Medical Center — West Oahu		4	4.81	9,369	0.83	0.26, 2.01
Wahiawa General Hospital		1	5.28	10,521	0.19	0.01, 0.93
Wilcox Memorial Hospital		11	9.74	15,381	1.13	0.59, 1.96
<b>Hawaii Total</b>		258	355.66	504,390	0.73	0.64, 0.82

Note: Reporting in Hawaii is tied to CMS IQR reporting requirements. Kapiolani Medical Center for Women and Children, Kauai Veterans Memorial Center, and Shriners Hospital for Children are not mandated to report CDI to NHSN. Only laboratory confirmed inpatient healthcare-onset CDI isolates are presented. Source of national baseline data: 2010–2011 NHSN CDI LabID Data. Data contained in this report were last generated on May 26, 2015.

**Legend:**

- = Number of infections was **lower (better)** than predicted
  - = Number of infections was **similar (not significantly different)** than predicted
  - = Number of infections was **higher (worse)** than predicted
  - = The facility had too few patient days calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
  - = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

# Inpatient Methicillin-Resistant *Staphylococcus aureus* Bacteremia



## What is methicillin-resistant *Staphylococcus aureus* (MRSA)?

*Staphylococcus aureus* is a very common bacterium found on the skin or in the nose of about 1 out of every 3 people. Usually, this bacterium does not cause problems for people, but under the right circumstances it can cause serious infections such as skin or wound infections, pneumonia, or infections of the blood (bacteremia). MRSA is a type of *S. aureus* which is resistant to some of the antibiotics often used to treat these infections. For more information, visit [CDC's MRSA website](#).

## What are some of the things hospitals are doing to prevent MRSA infections?

To prevent MRSA infections, doctors, nurses, and other healthcare providers:

- Clean their hands with soap and water or an alcohol-based hand rub before and after caring for every patient.
- Carefully clean hospital rooms and medical equipment.
- Use [Contact Precautions](#) when caring for patients with MRSA.
  - Whenever possible, a patient with MRSA will have a single room or will share a room only with someone else who also has MRSA.
  - Healthcare providers will put on gloves and wear a gown over their clothing while taking care of patients with MRSA; visitors may also be asked to wear a gown and gloves.
  - When leaving the room, hospital providers and visitors remove their gown and gloves and clean their hands.
  - Patients on contact precautions are asked to stay in their hospital rooms as much as possible.

## What can you do to help prevent MRSA infections?

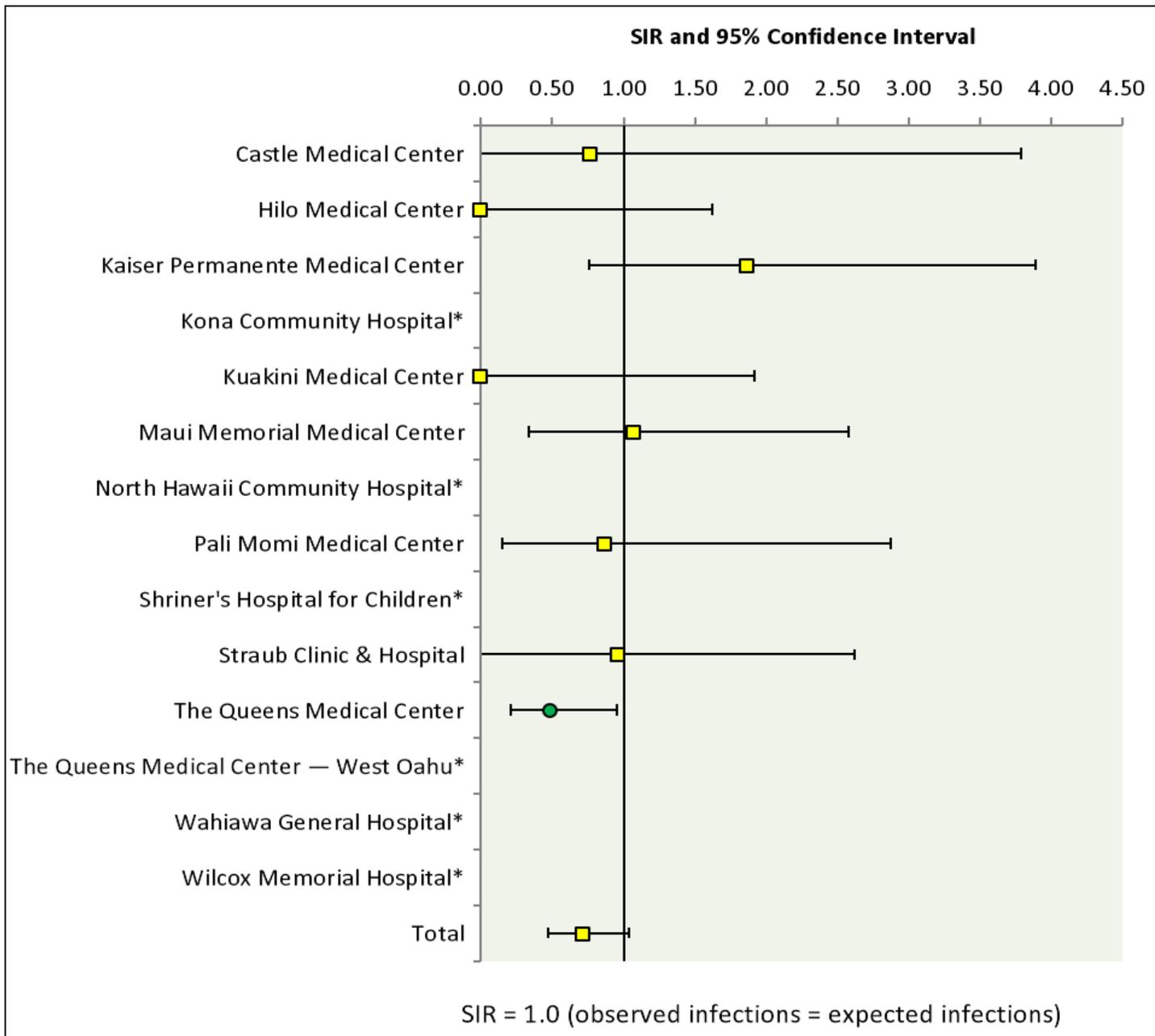
- Make sure your healthcare providers clean their hands before and after examining you, either with soap and water or an alcohol-based hand rub. **If you do not see your providers clean their hands, please ask them to do so.**
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. **If you do not see them clean their hands, ask them to clean their hands.**

## What is the current situation of MRSA bacteremia infections?

- In 2014, 25 MRSA bacteremia infections were reported within Hawaii hospitals. This was 29% lower than predicted.
- Hawaii achieved the DHHS 2013 HAI prevention target (SIR of 0.75) with a SIR of 0.71.
- No statistical difference was observed between 2013 and 2014 MRSA bacteremia infection SIRs.

# SIRs for Inpatient Methicillin-Resistant *Staphylococcus aureus* Bacteremia

January 1, 2014 - December 31, 2014



**Legend**

Confidence Interval: Range of certainty for the estimate

Hospital Name [ ] Hospital SIR

SIR = 1.0 (observed infections = predicted infections)

- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** than predicted
- ◆ = Number of infections was **higher (worse)** than predicted

Note: Facilities with an asterisk (\*) have less than one predicted infection, and therefore do not have a SIR or confidence interval

**Inpatient Methicillin-Resistant *Staphylococcus aureus* Bacteremia  
January 1, 2014 through December 31, 2014**

Hospital	Hospital Performance Compared To NHSN National Data	Number Of Infections	Number Of Predicted Infections	Number Of Patient Days	Standardized Infection Ratio	95% Confidence Interval For SIR
Castle Medical Center		1	1.30	33,298	0.77	0.04, 3.79
Hilo Medical Center		0	1.84	38,402	0.00	0, 1.63
Kaiser Permanente Medical Center		6	3.21	64,703	1.87	0.76, 3.89
Kona Community Hospital		0	0.75	14,362	Too Small to Calculate	
Kuakini Medical Center		0	1.56	30,197	0.00	0, 1.92
Maui Memorial Medical Center		4	3.74	59,830	1.07	0.34, 2.58
North Hawaii Community Hospital		1	0.26	7,133	Too Small to Calculate	
Pali Momi Medical Center		2	2.30	40,235	0.87	0.15, 2.87
Shriner's Hospital for Children		0	0.08	1596	Too Small to Calculate	
Straub Clinic & Hospital		3	3.12	43,888	0.96	0.25, 2.62
The Queens Medical Center		7	14.55	151,845	0.48	0.21, 0.95
The Queens Medical Center — West Oahu		0	0.58	9,369	Too Small to Calculate	
Wahiawa General Hospital		0	0.96	10,521	Too Small to Calculate	
Wilcox Memorial Hospital		1	0.81	16,642	Too Small to Calculate	
<b>Hawaii Total</b>		25	34.98	520,425	0.72	0.47, 1.03

Note: Reporting in Hawaii is tied to CMS IQR reporting requirements. Kapiolani Medical Center for Women and Children and, Kauai Veterans Memorial Center are not mandated to report MRSA Bacteremia to NHSN. Only healthcare-onset, inpatient MRSA bacteremia lab events are presented. Source of national baseline data: 2010–2011 NHSN MRSA Blood LabID Data. Data contained in this report were last generated on May 26, 2015.

**Legend:**

- = Number of infections was **lower (better)** than predicted
  - = Number of infections was **similar (not significantly different)** than predicted
  - = Number of infections was **higher (worse)** than predicted
  - = The facility had too few patient days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
  - = Recognizes hospitals with zero infections during the specified time period
- Too Small to Calculate = Predicted number of infections was less than one

# Influenza Vaccination of Healthcare Personnel



## What is influenza?

Influenza, also known as the flu, is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness. Serious outcomes of influenza infection can result in hospitalization or death. Some people, such as older adults, young children, and people with certain health conditions, are at higher risk for serious flu complications. The best way to prevent the flu is by getting **vaccinated** each year. Attaining vaccination coverage of 90% of a facility's HCP is a U.S. DHHS Healthy People 2020 goal. For more information, visit [CDC's influenza website](#).

## What are some of the things hospitals are doing to prevent influenza?

To prevent influenza, healthcare facilities, doctors, nurses, and other healthcare providers ensure the following strategies:

- **Vaccination**: Annual vaccination is the most important measure to prevent season influenza infection. Facilities promote and administer seasonal influenza vaccination. High HCP and patient vaccination rates are critical steps in preventing healthcare transmission of influenza.
- **Cough Etiquette**: Ensure providers cover their mouth and nose when coughing or sneezing and then **clean their hands** with soap and water or an alcohol-based hand rub.
- **Management of Ill Workers**: Ensure ill workers stay home, or if at work, stop patient-care activities, wear a facemask, and promptly notify their supervisor and infection control personnel/occupational health before leaving work.
- **Infection Control**: Adhere to infection control precautions for all patient-care activities and aerosol-generating procedures.
- **Environmental Cleaning**: Carefully clean hospital rooms and medical equipment.

## What can you do to help prevent influenza infections?

- **The single best way to prevent the flu is get vaccinated against flu each season.**
- Practice cough etiquette and **cover your mouth or nose** when you cough or sneeze.
- Make sure your healthcare providers clean their hands before and after examining you, either with soap and water or an alcohol-based hand rub. **If you do not see your providers clean their hands, please ask them to do so.**

Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. **If you do not see them clean their hands, ask them to clean their hands.**

## What is the current situation of Healthcare Personnel Influenza Vaccination?

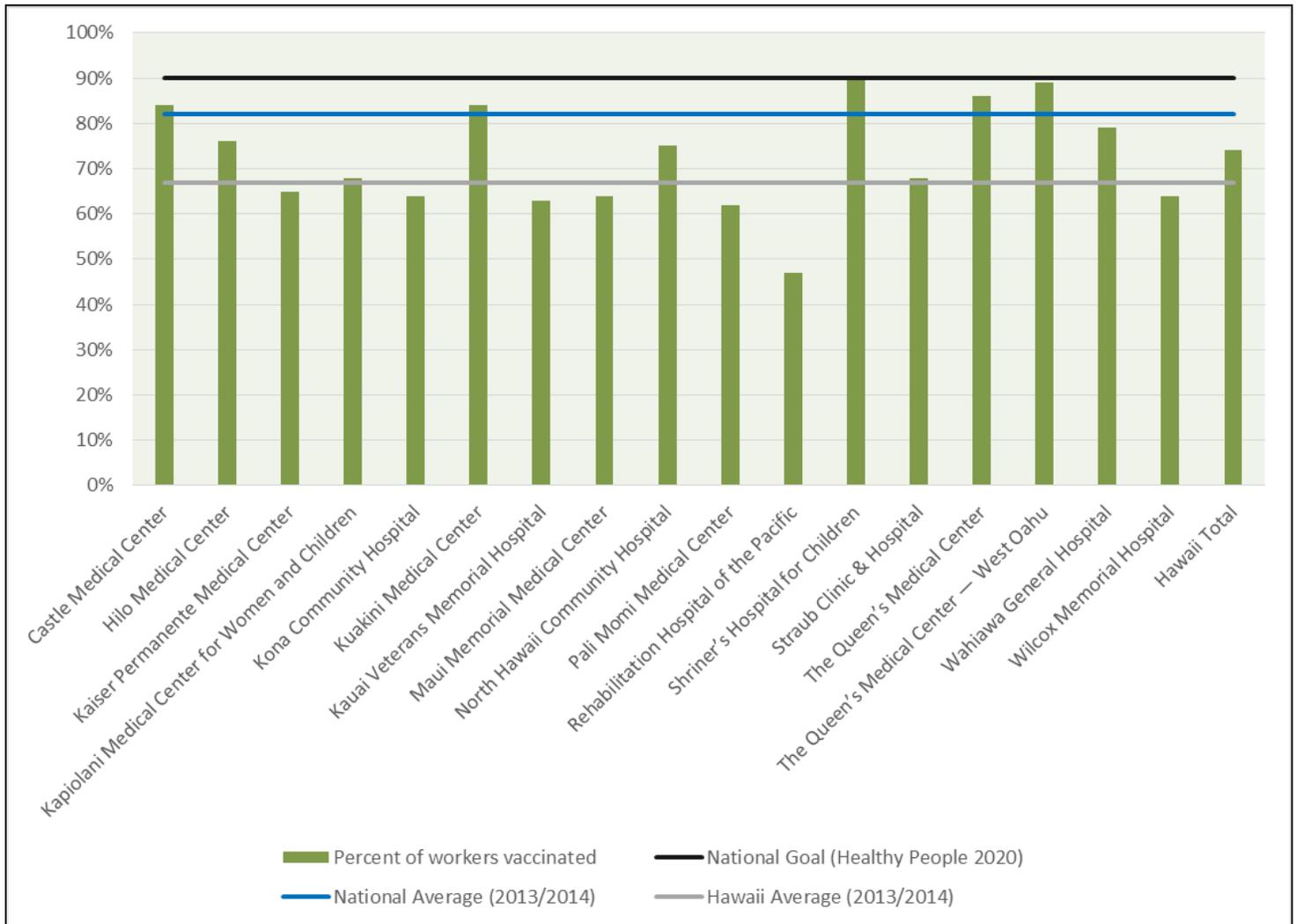
- For the 2014–2015 influenza season, the overall State average vaccination coverage was 73%.
- The overall State average vaccination coverage for the 2013–2014 was 67%, and the national average was 82%.

**Healthcare Personnel Influenza Vaccination—All Healthcare Workers  
October 1, 2014 through March 31, 2015**

Hospital	Vaccinated at Facility	Vaccinated Elsewhere	Total Vaccinated	Total number of workers	Number of Contraindications	Number of declinations	Percent of workers vaccinated
Castle Medical Center	973	243	1,216	1,441	10	93	84%
Hilo Medical Center	559	44	603	792	7	175	76%
Kaiser Permanente Medical Center	1,400	94	1,494	2,312	17	160	65%
Kapiolani Medical Center for Women and Children	1,605	774	2,379	3,488	42	607	68%
Kona Community Hospital	307	34	338	531	9	135	64%
Kuakini Medical Center	818	434	1,252	1,497	10	141	84%
Kauai Veterans Memorial Hospital	146	51	197	312	1	65	63%
Maui Memorial Medical Center	941	233	1,174	1,843	1	488	64%
North Hawaii Community Hospital	304	79	383	512	11	20	75%
Pali Momi Medical Center	774	500	1,274	2,056	22	384	62%
Rehabilitation Hospital of the Pacific *	117	114	231	488	15	88	47%
Shriner's Hospital for Children	178	147	325	361	4	28	90%
Straub Clinic & Hospital	1,243	730	1,973	2,888	27	503	68%
The Queen's Medical Center	4,150	1,880	6,030	7,048	72	434	86%
The Queens Medical Center — West Oahu	692	199	891	1,005	14	58	89%
Wahiawa General Hospital	397	70	467	589	5	13	79%
Wilcox Memorial Hospital	419	210	629	977	16	259	64%
<b>Hawaii Total</b>	<b>14,906</b>	<b>5,719</b>	<b>20,625</b>	<b>27,902</b>	<b>268</b>	<b>3,563</b>	<b>74%</b>

Note: \* Rehabilitation Hospital of the Pacific participates in the CMS Inpatient Rehabilitation Facility Quality Reporting Program for HCP influenza vaccination; their data may not be comparable to acute care facility data. Caution should be used when interpreting the overall number of healthcare workers vaccinated in the state. In some instances, a single healthcare worker may be counted in multiple hospitals, and therefore the total number of vaccinated personnel in the state as shown in this table may be inflated.

## Influenza Vaccination Coverage by Facility October 1, 2014 – March 31, 2015



Note: National average from Lindley et al. (2014) Influenza vaccination performance measurement among acute care hospital-based health care personnel--United States, 2013-14 influenza season. *Morbidity and Mortality Weekly Report*: [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6337a2.htm?s\\_cid=mm6337a2\\_x](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6337a2.htm?s_cid=mm6337a2_x)

State average from Healthcare-Associated Infections in Hawaii – 2013 report: <http://health.hawaii.gov/docd/files/2014/07/Hawaii-2013-HAI-Report-Final2.pdf>

National goal obtained from Healthy People Objective IID-12.13: <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=23>. Additionally, Joint Commission requires facilities to set incremental goals to reach 90%. [http://www.jointcommission.org/assets/1/18/R3\\_Report\\_Issue\\_3\\_5\\_18\\_12\\_final.pdf](http://www.jointcommission.org/assets/1/18/R3_Report_Issue_3_5_18_12_final.pdf)

# Hospital Summary Table (2014)

Facility	CLABSI	CAUTI	COLO	HYST	CDI	MRSA
Castle Medical Center						
Hilo Medical Center						
Kaiser Permanente Medical Center						
Kapiolani Medical Center for Women and Children			**		**	**
Kona Community Hospital						
Kuakini Medical Center				**		
Kauai Veterans Memorial Hospital					**	**
Maui Memorial Medical Center						
North Hawaii Community Hospital						
Pali Momi Medical Center						
Straub Clinic & Hospital						
The Queen's Medical Center						
The Queens Medical Center — West Oahu				**		
Wahiawa General Hospital						
Wilcox Memorial Hospital						
Hawaii Total						

## Legend:

- = Number of infections was **lower (better)** than predicted
- = Number of infections was **similar (not significantly different)** than predicted
- = Number of infections was **higher (worse)** than predicted
- = The facility had too few device days/procedures or patient days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.
- \*\* = Surveillance not mandated for reporting into NHSN on this device or procedure, or procedure not performed at this facility.

## Conclusion

A total of 385 HAIs were reported, including 258 CDI, 42 CAUTI, 40 SSIs, 25 MRSA bacteremia events, and 20 CLABSI. The overall observed number of HAIs in Hawaii hospitals was almost 32% lower than predicted based on national data.

For those conditions also reported in the 2013 Hawaii HAI Report, an increase in number of infections and SIRs was observed for nearly all conditions. However, this increase was not statistically significant; the exception was in SSIs after an abdominal hysterectomy (HYST), where a statistically significant increase was seen. This highlights the need for continued vigilance in infection control and HAI reduction.

Condition	2013			2014			Difference in Observed HAIs	2014 State SIR vs 2013 State SIR
	Observed	Predicted	SIR	Observed	Predicted	SIR		
CLABSI	19	82.15	0.23	20	83.47	0.24	+1	4% Increase
CAUTI	43	72.64	0.59	42	58.16	0.72	-1	22% Increase
COLO	28	27.33	1.02	35	26.49	1.32	+7	29% Increase
HYST	0	5.92	0	5	5.60	0.89	+5	N/A*
CDI	236	351.93	0.67	258	355.66	0.73	+22	9% Increase
MRSA	20	34.94	0.57	25	35.29	0.71	+5	25% Increase

\*Percent change cannot be calculated

Hawaii continues to work towards longer-term goals. In 2009, the U.S. DHHS developed the [National Action Plan to Prevent Health Care-Associated Infections: Road Map to Elimination, which](#) identified the HAI measures recommended for continued monitoring and provided a roadmap for HAI prevention in acute care hospitals. The Action Plan included 5-year [Prevention Targets](#) to be achieved by 2013. This year, Hawaii has maintained achievement of the target for each condition, with the exception of SSIs and CDI.

Condition	2013 Target	Hawaii 2014 SIR	Target:
CLABSI	0.50 SIR or 50% reduction	0.24 SIR or 76% lower than predicted	Achieved
CAUTI	0.75 SIR or 25% reduction	0.72 SIR or 28% lower than predicted	Achieved
SSI (combined)	0.75 SIR or 25% reduction	1.25 SIR or 25 % higher than predicted	Not Achieved
CDI	0.70 SIR or 30% reduction	0.73 SIR or 27% lower than predicted	Not Achieved
MRSA	0.75 SIR or 25% reduction	0.71 SIR or 29% lower than predicted	Achieved

Efforts to date by the healthcare community have resulted in the prevention of hundreds of HAIs in just the past two years. This results in improved patient outcomes, decreases in re-hospitalization and long term rehabilitation, and savings in direct healthcare costs. HDOH, working with stakeholders, will continue to monitor trends and promote prevention strategies with a goal of elimination of HAIs as a public health concern.

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## Appendix 1 – Acronyms:

<b>CAUTI</b>	Catheter associated urinary tract infections
<b>CDC</b>	Centers for Disease Control and Prevention
<b>CDI</b>	<i>Clostridium difficile</i> infection
<b>CI</b>	Confidence interval
<b>CLABSI</b>	Central line-associated bloodstream infections
<b>CMS</b>	Centers for Medicare and Medicaid Services
<b>COLO</b>	Colon surgeries
<b>DHHS</b>	Department of Health and Human Services
<b>HAIs</b>	Healthcare-associated infections
<b>HCP</b>	Healthcare personnel
<b>HDOH</b>	Hawaii Department of Health
<b>HYST</b>	Abdominal hysterectomy
<b>ICU</b>	Intensive care unit
<b>IQR</b>	Inpatient quality reporting
<b>JCAHO</b>	Joint Commission on Accreditation of Healthcare Organizations
<b>MRSA</b>	Methicillin-resistant <i>Staphylococcus aureus</i>
<b>NHSN</b>	National Healthcare Safety Network
<b>SIR</b>	Standardized infection ratio: $SIR = \frac{\text{Observed HAIs}}{\text{Expected HAIs}}$
<b>SSI</b>	Surgical site infections

## Appendix 2 - HAI Advisory Committee

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